ABSTRACT

This final project research was made by combining two fields of expertise, namely the field of technology and the field of medicine. In previous studies, several authors from different institutions have identified human voices and identified diseases in the oral cavity, including Risha Annisa (Telkom University), Roy Cesaro Erari (Telkom University), Rinaldi Budi Utomo (Gadjah Mada University), and Jaenal Arifin (STMIK Asia). Based on these references, the authors are interested in conducting this study that specifically addresses Recurrent Aftosa Stomatitis (SAR). Stomatitis is inflammation of the mucous layer of any structure in the mouth, such as cheeks, gums, tongue, lips and roof or floor of the mouth.

Telecommunication technology can be applied using sound processing. Sound processing is done by input SAR disease based on human voice in one particular sentence. After that, the preprocessing process is performed, feature extraction using the wavelet packet method and classification using the Self Organizing Map (SOM). This Final Project aims to make ordinary people and doctors easier to identify SAR disease using sound processing.

Percentage determination is designed using Matlab based software. Wavelet packet feature extraction method and SOM classification can produce a program that can determine the type and percentage of disease groups in one sample. From the results of the tests conducted, getting the best accuracy of 79%.

Keywords*: Stomatitis Aftosa Rekuren, wavelet packet, Self Organizing Map*